

IN THE CLAIMS:

New claims 46-48 have been added herein. All of the pending claims 1-48 are presented below. This listing of claims will replace all prior versions and listings in the application. Please enter these claims as amended.

1. (Previously Presented) A melt-pourable explosive composition comprising:
30 weight percent to 70 weight percent of one or more organic binders selected from the group consisting of mononitro aromatics and dinitro aromatics, the one or more organic binders collectively exhibiting a total energy of detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C;
5 weight percent to 35 weight percent of one or more oxidizers; and
5 weight percent to 35 weight percent of one or more reactive metallic fuels,
wherein the melt-pourable explosive composition is pourable and is remeltable into a pourable state at a temperature in a range of 80°C to 115°C.

c1 2. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise at least one mononitro aromatic compound and at least one dinitro aromatic compound.

3. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the mononitro aromatics each comprise one nitrocarbon moiety and wherein the dinitro aromatics each comprise two nitrocarbon moieties.

4. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise at least one member selected from the group consisting of mononitro-substituted and dinitro-substituted phenyl alkyl ethers.

5. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise at least one member selected from the group consisting of 2,4-dinitroanisole, 2,4-dinitrophenetole, and 4-methoxy-2-nitrophenol.

6. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise 2,4-dinitroanisole.

7. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise an N-alkyl-nitroaniline processing aid.

8. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise N-methyl-nitroaniline as a processing aid.

9. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more organic binders comprise at least one processing aid selected from the group consisting of N-alkyl nitroaniline and N-aryl-nitroaniline, the at least one processing aid accounting for not more than 1 weight percent of the melt-pourable explosive composition.

10. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more reactive metallic fuels comprise aluminum.

11. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the melt-pourable explosive composition undergoes an onset of thermal decomposition at a temperature that is at least 55.5°C higher than the temperature at which the melt-pourable explosive composition becomes pourable.

12. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the melt-pourable explosive composition exhibits a card gap value of less than 105.

13. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the melt-pourable explosive composition exhibits a card gap value of less than 85.

14. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the melt-pourable explosive composition has a total energy of detonation of 11.6 kJ/cc to 14.2 kg/cc.

15. (Previously Presented) A melt-pourable explosive composition comprising:
30 weight percent to 70 weight percent of one or more organic binders selected from the group consisting of mononitro aromatics and dinitro aromatics, the one or more organic binders collectively exhibiting a total energy of detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C;
5 weight percent to 35 weight percent of one or more inorganic oxidizers; and
5 weight percent to 35 weight percent of one or more reactive metallic fuels,
wherein the melt-pourable explosive composition is pourable and is remeltable into a pourable state at a temperature in a range of 80°C to 115°C.

16. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one mononitro aromatic compound and at least one dinitro aromatic compound.

17. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the mononitro aromatics each comprise one nitrocarbon moiety and wherein the dinitro aromatics each comprise two nitrocarbon moieties.

18. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one member selected from the group consisting of nitrotoluenes, dinitrotoluenes, and dinitronaphthalenes.

19. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one member selected from the group consisting of nitrophenols, dinitrophenols, mononitroanilines, and dinitroanilines.

20. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one member selected from the group consisting of mononitro-substituted and dinitro-substituted phenyl alkyl ethers.

21. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one member selected from the group consisting of 2,4-dinitroanisole, 2,4-dinitrophenetole, and 4-methoxy-2-nitrophenol.

22. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise 2,4-dinitroanisole.

23. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one heterocyclic compound.

24. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise an N-alkyl-nitroaniline processing aid.

25. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise N-methyl-nitroaniline as a processing aid.

26. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise an N-aryl-nitroaniline processing aid.

27. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more organic binders comprise at least one processing aid selected from the group consisting of N-alkyl nitroaniline and N-aryl-nitroaniline, the at least one processing aid accounting for not more than 1 weight percent of the melt-pourable explosive composition.

28. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers comprise at least one member selected from the group consisting of perchlorates and nitrates.

29. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers comprise at least one perchlorate selected from the group consisting of ammonium perchlorate, sodium perchlorate, and potassium perchlorate.

30. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers comprise at least one nitrate selected from the group consisting of ammonium nitrate, sodium nitrate, strontium nitrate, and potassium nitrate.

31. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers have an average particle size of 3 microns to 60 microns.

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32. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers have an average particle size of 5 microns to 20 microns.

33. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein at least 95 weight percent of the melt-pourable explosive composition comprises a combination of the one or more organic binders, the one or more inorganic oxidizers, and the one or more reactive metallic fuels.

34. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein at least 99 weight percent of the melt-pourable explosive composition comprises a combination of the one or more organic binders, the one or more inorganic oxidizers, and the one or more reactive metallic fuels.

35. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more reactive metallic fuels comprise aluminum.

36. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the melt-pourable explosive composition undergoes an onset of thermal decomposition at a temperature that is at least 55.5°C higher than the temperature at which the melt-pourable explosive composition becomes pourable.

37. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the melt-pourable explosive composition exhibits a card gap value of less than 105.

38. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the melt-pourable explosive composition exhibits a card gap value of less than 85.

39. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the melt-pourable explosive composition exhibits a dent depth in a range of 0.713 cm to 0.872 cm.

40. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the melt-pourable explosive composition has a total energy of detonation of 11.6 kJ/cc to 14.2 kg/cc.

41. (Previously Presented) A melt-pourable explosive composition comprising:
30 weight percent to 70 weight percent of one or more organic binders selected from the group consisting of mononitro aromatics and dinitro aromatics, the one or more organic binders collectively exhibiting a total energy detonation lower than trinitrotoluene and collectively having a total melting point in a range of 80°C to 115°C;
5 weight percent to 35 weight percent of one or more inorganic oxidizers; and
5 weight percent to 35 weight percent of one or more reactive metallic fuels,
wherein the melt-pourable explosive composition is melt-pourable and is remelttable into a pourable state at a temperature in a range of 80°C to 115°C, undergoes an onset of thermal decomposition at a temperature that is at least 55.5°C higher than the temperature at which the melt-pourable explosive composition becomes pourable, and exhibits a card

gap value of less than 105, a dent depth in a range of 0.713 cm to 0.872 cm, and a total energy of detonation of 11.6 kJ/cc to 14.2 kJ/cc.

42. (Previously Presented) The melt-pourable explosive composition of claim 41, wherein the card gap value exhibited by the melt-pourable explosive composition is less than 85.

43. (Previously Presented) The melt-pourable explosive composition of claim 1, wherein the one or more oxidizers comprise an inorganic oxidizer present in the composition in a single modal particle size distribution in a range of 5 microns to 50 microns, the inorganic oxidizer constituting from 15 weight percent to 20 weight percent of the composition.

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cond. 44. (Previously Presented) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers are present in the composition in a single modal particle size distribution in a range of 5 microns to 50 microns, the one or more inorganic oxidizers constituting from 15 weight percent to 20 weight percent of the composition.

45. (Previously Presented) The melt-pourable explosive composition of claim 41, wherein the at least one oxidizer comprises an inorganic oxidizer present in the composition in a single modal particle size distribution in a range of 5 microns to 50 microns, the inorganic oxidizer constituting from 15 weight percent to 20 weight percent of the composition.

46. (New) The melt-pourable explosive composition of claim 1, wherein the one or more oxidizers comprises ammonium perchlorate.

47. (New) The melt-pourable explosive composition of claim 15, wherein the one or more inorganic oxidizers comprises ammonium perchlorate.

48. (New) The melt-pourable explosive composition of claim 41, wherein the one or more inorganic oxidizers comprises ammonium perchlorate.